RANCHO SANTA ANA BOTANIC GARDEN
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LIBOCEDRUS DECURRENS

INCENSE-CEDAR

1941

RANCHO SANTA ANA BOTANIC GARDEN
of the
NATIVE PLANTS OF CALIFORNIA
Santa Ana Cañon, Orange County, California
Established 1927 in Memory of
JOHN W. BIXBY

LIBOCEDRUS DECURRENS
INCENSE-CEDAR

Cupressaceae Cypress Family

Forest tree rarely over 150 ft. high; young trees with a dense columnar crown from the ground to the rather blunt tip; mature trees with irregular, open crowns, and clean trunks for one-half or more of their total height; trunks thick at base, but soon narrowed to gradually tapering boles of 1-4 ft. in diam.; bark of young trees and young branches broken into reddish-brown plates, that of old trunks several inches thick, fibrous, and with deep longitudinal furrows. Branchlets alternate, arranged in flat, slightly drooping sprays, the foliage of which is dark, glossy green on both surfaces. Leaves scale-like, opposite, arranged in 4 rows, those above and below flattened and broadly triangular. Staminate and pistillate cones borne on same tree, solitary at tips of short branchlets, opening from mid-winter to spring. Staminate cones $\frac{1}{8}$-$\frac{1}{4}$ in. long, with 12-16 scales, each with 4-6 pollen sacs. Pistillate cones pendulous, dark brown, maturing the first autumn, about 1 in. long, $\frac{3}{8}$ in. thick, composed of 2 main, seed-bearing scales, 3 (fused to appear as 1) flattened central scales, and a pair of supplementary basal scales; seeds 2 to each fertile scale, about $\frac{3}{4}$ in. long, including the broad wing. Cotyledons 2, in seedlings, these linear, about 1 in. long; juvenile leaves apparently in 4's, linear, about $\frac{1}{2}$ in. long, erect or spreading, rather closely set on first inch of stem, but then giving rise to forms transitional to mature leaves.

The genus *Libocedrus* (from Greek, *libas,* meaning resin, and *cedrus,* for cedar) contains about 8 species, of which 1 is on the Pacific Coast, 2 in South America, and the others range from China to New Zealand. The genus is most closely related to *Thuja* and *Thujopsis.*

Libocedrus decurrens (the specific name is in reference to the decurrent leaf bases) was described in 1854 by Torrey, famous Harvard botanist. The original specimens had been collected by Gen. Fremont on the headwaters of the Sacramento River. *Libocedrus Craigana* published by Murray and *Thuja gigantea* by Carriére (not Nuttall's species) are strictly synonymous with *L. decurrens.* Although no named wild forms of this tree have been segregated, there are several recognized horticultural varieties which are perpetuated vegetatively.

Incense-Cedar, the English name most commonly applied to *Libocedrus decurrens,* is a happy choice in that the wood and foliage are pleasantly aromatic. It is widely distributed in the Arid Transition Life Zone from the Cascade Mts., Oregon, south through the Coast Ranges and Sierra Nevada to the higher mountains of southern California, and to the San Pedro Martir Mts., Baja California; it is also found in western Nevada in the vicinity of Lake Tahoe. Its altitudinal range is from 500-7500 ft., but it generally is not so well developed at these extremes as at middle elevations. Incense-Cedar seldom occurs in pure stands, but frequently is one of the several most abundant tree species in the areas in which it grows. Its most common tree associates are the Yellow Pine,

Jeffrey Pine, Sugar Pine, White Fir, Douglas-Fir, Big Tree, Kellogg Oak and Golden Cup Oak. The regions in which Incense-Cedar grows have a rainfall of 15-50 in. per year, most of which is during the winter months. Thus it is subjected to long dry summers, to which it appears to be admirably adapted. In California it is most abundant and of greatest size and beauty in the Sierra Nevada, while in the Coast Ranges it is less common and is largely in the inner portions away from coastal fogs.

Commercial usage of the wood of Incense-Cedars has been rather limited. Fence posts, rails, telephone poles, shingles, shakes, interior finish, furniture and wood for lead pencils represent the major uses. In commercial lumbering the trees are generally cut along with Yellow Pines, but many are worthless because of heart rot.

Libocedrus decurrens was introduced into cultivation about ninety years ago. In the eastern United States it is hardy as far north as Massachusetts. In the West it thrives all along the Pacific Coast. In California it appears equally at home in the coastal sections and in the hot interior valleys. Many fine old trees are seen in cultivation in southern California. A fine example of their use as street trees is on East California Street, Pasadena.

Our plantings of *Libocedrus decurrens* number several hundred trees, of which the largest are on an east slope hillside in rich loam. These are from seeds gathered in Sequoia National Park in 1927, and planted out as small seedlings in February, 1929. Some of these are now 20-25 ft. high, 10-12 ft. in diam., and have trunks 10-13 in. in diam. at the ground. Their rich, dark, glossy foliage and dense growth make them one of our finest conifers.

Propagation of Incense-Cedars is by seeds or cuttings. Seeds should be planted in outside seed beds or in flats in the late fall or early spring. The young seedlings will be several inches high by late spring, and can then be placed in containers. At the end of the first growing season they should be about 6 in. high, and can be planted out. They may also be lined out in nursery rows, grown for several years, and then balled. A common practice in forestry work is to grow the seedlings for a year or two in seed beds, then plant them out bare root. Some losses are entailed by this method, but large numbers of plants are easily handled, and there is no danger of developing coiled roots, as often happens if trees are grown in containers. Cuttings should be taken in the fall, and are essential if distinctive types are to be perpetuated.

We suggest the planting of Incense-Cedars in California gardens, parks, parkways, and roadsides because they are not only beautiful evergreens, but are also able to thrive under so many different conditions of soil, moisture and exposure. Equally fine specimens can be grown in a lawn or on a comparatively dry hillside. Because of their fairly narrow growth habit they are suited to small gardens where such popular, but often misplaced, trees such as Deodar Cedars are far too large.

Fine plants in containers or balled, field grown specimens are readily obtained from most nurserymen.

CARL B. WOLF.

RANCHO SANTA ANA BOTANIC GARDEN

Dedication of Garden Foundation to the Board of Trustees for the Rancho Santa Ana Botanic Garden of the Native Plants of California:

"THE NATURE, OBJECT AND PURPOSE OF THE INSTITUTION HEREBY FOUNDED AND TO BE MAINTAINED HEREUNDER.

ITS NATURE: A botanic garden of the native plants of California, herbarium and botanical library, containing living and/or preserved specimens of trees, plants and flowers native to California, and literature relating thereto.

ITS OBJECT: The preservation and improvement of the property now transferred and such property as may hereafter be transferred to the Trustees for those who not only wish to enjoy, but to study, assembled in one accessible locality, native California plants; and for the advancement of science and education with reference to plant life indigenous to the State of California.

ITS PURPOSES: (a) An institution founded primarily for scientific research in the field of local botany.

(b) To preserve the native California flora, try to replenish the depleted supply of some of the rarest plants which are rapidly being exterminated, and bring together in a comparatively small area as complete a collection of the rich store of native California plants as can be grown in this southern section of the state, thereby promoting the general welfare of the people of the state by providing the means for encouraging and carrying on the above mentioned activities in said state and by doing such other things as may be necessary and desirable to carry out the objects hereof."

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